The Military Battles for Electromagnetic Spectrum Superiority

Kevin C. Darrenkamp
U.S. Army Space Command
Colorado Springs, Colorado

Introduction

Operation Desert Storm demonstrated the effective use of electronic systems as force multipliers on the modern battlefield. Today's military is becoming increasingly more reliant on frequency-dependent systems to provide positioning, navigation, imagery, communications, intelligence, weather, and to engage the enemy beyond visual range. For example, a soldier may receive positioning and navigation information from a Global Positioning System receiver worn like a wrist watch, or receive an early warning "page" that tells him he is within the fallout area of a ballistic missile.

However, the military's use of new and emerging frequency-dependent technologies is not unique. Commercial and state and local government uses of frequency-dependent systems have experienced similar growth. Capital investment in the wireless mobile industry alone has more than quadrupled since 1993 for a cumulative total of over $60 billion through 1998.[1]

This capital investment was made possible, in large part, when Congress permitted the Federal Communications Commission (FCC) to sell, through competitive bidding, portions of the spectrum that Congress required be reallocated away from federal government users.[2] As the federal government and other users compete for this valuable, but finite resource, the Department of Defense (DOD), as the federal government's principal user of the spectrum, marched to Capitol Hill to fight against the reallocation and sale of frequency spectrum.[3]

Initially proposed legislation prohibiting any interference with military systems failed to pass. Later, the National Defense Authorization Act for Fiscal Year 2000[4] (DOD Authorization Act) required an assessment of national spectrum planning (including the effect on military and intelligence capabilities and requirements), the reclamation of certain military frequencies, and an exchange of frequencies when the DOD is required to surrender such frequencies to other users.

The Spectrum Resource

Electromagnetic radiation is a form of oscillating electrical and magnetic energy capable of traversing space without benefit of physical interconnections. Electric and magnetic fields produce waves that move through space at different rates or "frequencies." Frequency is measured in cycles per second, or Hertz (Hz). For example, the faster a sound wave moves through space, the higher the frequency and, therefore, the higher the pitch of the sound. The set of all possible frequencies is called the electromagnetic spectrum. The subset of frequencies from three kilohertz (kHz) to 300 gigahertz (GHz) is known as the radio spectrum. The term "bandwidth" refers to the number of consecutive frequencies needed to transmit designated bits of information–the width of a communications channel.

The principal value of the spectrum resource lies in its use for conveying information of widely varying sorts at varying speeds over varying distances. Unlike other resources, use of the spectrum does not reduce its availability to other users. However, the spectrum is subject to congestion, in which signals that overlap in time, location, and frequency may interfere with each other. As technologies have improved, the amount of information the spectrum can carry has grown, and thus increased the demand for spectrum and resultant increased interference amongst its users.

Spectrum Regulation—No Cover for the Federal User

The first commercial use of the spectrum occurred on 2 November 1920, with the broadcast of Pittsburgh station KDKA. Because the spectrum was viewed as a public resource, rights for private use of the spectrum were distributed by the Secretary of Commerce on a first-come first-served basis, restricting only the frequency, location and time of broadcast. In 1926 U.S. District Judge Wilkerson held in *United States v. Zenith Radio Corp.*[5] that the Secretary of Commerce lacked the authority to regulate the radio spectrum. To remedy this situa-

1. *In Re* Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, FCC Docket No. 99-354 (Nov. 22, 1999) (on file with author).

2. Omnibus Reconciliation Act of 1993, Pub. L. No. 103-66 (1993); Balanced Budget Act of 1997, Pub. L. No. 105-33 (1997).

3. Daniel Verton, *DOD asks Congress to save more radio frequencies for military,* FED. COMPUTER WK., Feb. 23, 1999.

4. Pub. L. No. 106-65, § 1062 (1999).

5. 12 F.2d 614 (N.D. Ill. 1926).

tion, Congress enacted the Radio Act of 1927, the substantive provisions of which were later incorporated into the Communications Act of 1934[6] (Communications Act), establishing the FCC.

National spectrum management is a shared responsibility between the FCC and the National Telecommunications and Information Administration (NTIA). The Communications Act gave the FCC authority to regulate the radio spectrum. However, Section 305 of the Communications Act expressly reserved to the President the authority to regulate the federal government's use of the radio spectrum. The President delegated this authority to the Secretary of Commerce, who delegated it, in turn, to the Assistant Secretary of Commerce for Communications and Information (also the Administrator of the NTIA).[7]

The Communications Act provides the FCC's regulation of non-federal spectrum must be in the "public interest."[8] The Communications Act fails to define "public interest," and the Supreme Court held that the FCC has broad discretion in formulating the public interest standard.[9] Despite the Supreme Court's deference, the FCC has been unable to establish any clarity for the public interest standard relative to spectrum regulation. Indeed, the inability of the public interest standard to separate claims of equal merit led the FCC, in part, to begin using lotteries and, subsequently, competitive bidding to assign licenses for use of the spectrum.[10]

Although Section 305 of the Communications Act grants authority to the President to regulate only the federal government's use of the radio spectrum, the NTIA, as the President's delegate for spectrum regulation, sees as its objective to ensure effective, efficient, and prudent use of the spectrum in the best interest of the nation.[11] However, the NTIA interprets "best interest of the nation" as encompassing the overall benefits the American public derives from radio-communication services, both federal and non-federal, as well as the needs of various federal and competing users.[12]

In its Strategic Plan for 1997-2002,[13] the Commerce Department intends to ensure all government needs for vital telecommunications services are satisfied. Nevertheless, the NTIA was one of many organizations opposed to legislation prohibiting interference with DOD communication systems. A market-based approach to spectrum regulation by the FCC is emerging.[14] The NTIA has apparently adopted non-federal users of the spectrum and are seemingly opposed to the interests of federal uses of the spectrum. This suggests the necessity of DOD's recent assault on Capitol Hill regarding the auctioning off of the spectrum compromising national security and military readiness. A proactive approach is required by federal agencies today seeking to preserve bandwidth for their current and future needs.

Reallocating and Auctioning the Spectrum—Federal Users Take a Hit

The Omnibus Budget Reconciliation Act of 1993 (OBRA-93) amended the Communications Act and the National Telecommunications and Information Administration Organization Act[15] to require the Commerce Department to identify federal government bandwidth for reallocation to commercial uses. The FCC, pursuant to the Communications Act, will manage this bandwidth in the future.

The OBRA-93 also required the NTIA and FCC to conduct joint spectrum planning sessions with a view toward increasing commercial access to the spectrum. Because the OBRA-93 also permitted the FCC to auction off licenses for use of the spectrum,[16] it was expected that the offering of formerly federal government spectrum through the competitive bidding process would, in turn, increase federal revenue.[17]

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6. 47 U.S.C.S. § 151 (LEXIS 2000).

7. Exec. Order No. 12,046, 43 Fed. Reg. 13,349 (1978); U.S. Department of Commerce, Department Organization Orders 10-10, 25-7 (on file with author).

8. 47 U.S.C.S. § 303.

9. Federal Communications Comm'n v. WNCN Listeners Guild, 450 U.S. 582 (1981).

10. Congressional Budget Office, Where Do We Go From Here? The FCC Auctions and the Future of Radio Spectrum Management (1997) [hereinafter CBO Study].

11. NTIA Manual § 2-1 (1999). The *NTIA Manual* is the principal document for federal government spectrum management policies, rules, and technical standards. The *NTIA Manual* and all changes to it are incorporated by reference at 47 C.F.R. § 300.1 (1999).

12. National Telecommunications and Information Administration, U.S. Spectrum Management Policy: Agenda for the Future (1991).

13. Department of Commerce, Strategic Plan for 1997-2002 (1997).

14. William Kennard, Connecting the Globe: A Regulator's Approach to Building a Global Information Community (1999)

15. 47 U.S.C.S. § 901 (LEXIS 2000).

16. *Id*. § 309(j).

The OBRA-93 sought to commercialize the federal government's spectrum use. Specifically, when identifying the federal bandwidth for reallocation, Congress required the Commerce Department to consider whether the federal government could obtain commercial communications services over the identified spectrum. Moreover, Congress required the Commerce Department to promote commercially available substitutes for federal communications services to the maximum extent possible.

While the DOD has begun using commercial communication services, there is an operational and security risk associated with total reliance upon commercial systems. Commercial systems cannot be used for classified communications. Commercial systems are subject to disruption because of market-based economic decisions. This could result in priority access being provided to an adversary rather than the DOD.

In the three years following the OBRA-93, FCC auctions generated $27 billion in receipts to the U.S. Treasury.[18] The auctions generating the greatest revenues involved licenses for new paging services or narrowband personal communication services. Although the FCC auctions clearly achieved Congress' intent to increase federal revenues, an overall national spectrum management policy seemed to take a back seat to a balanced budget.

With the Balanced Budget Act of 1997 (BBA-97), Congress, presumably motivated by the success of the FCC's auctions, continued its practice of slicing federal spectrum and feeding it to commercial users. Accordingly, Congress also extended the authority of the FCC to issue licenses for spectrum based on competitive bidding.

The DOD went on the offensive in response to the continued reallocation of bandwidth from government to commercial use, the demand for wireless services, and deregulation of the telecommunications industry with the passing of the Telecommunications Act of 1996.

The DOD Authorization Act—Controlling the Hemorrhage

On 23 February 1999, several key DOD personnel testified before a joint hearing of the House Subcommittees for Military Procurement and Research and Development on Defense Information Superiority and Information Assurance. With respect to competition for frequency spectrum, Mr. Arthur Money, Assistant Secretary of Defense (Command, Control, Communications and Intelligence), stated the following:

> Much of our information superiority depends on access to the radio frequency spectrum. The priority we place on mobility, range, and speed dictates that much of our information technology be wireless and consequently we value access to the radio frequency spectrum which provides us the essential media for communicating information, unhampered by mechanical connections or hampered by weather and other natural phenomena. The U.S. military has an incredible investment in systems that exploit the spectrum and attempt to deny its use by our adversaries. We are frankly not surprised to find that the many attributes we value in sensing and communicating using the radio spectrum have private and commercial value as well. There is increasing pressure for the government to reduce its spectrum usage and to make this resource available for private sector development. We understand the resolution of who should use and how the spectrum is used is an important one. It is equally important we consider the impact to national security in these deliberations and understand the full costs in terms of security and dollars spectrum reallocation incurs. The DOD is committed to using the spectrum allocated to it more efficiently, but new military requirements for passing video and detecting low observable threats exacerbates an already difficult problem.
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> Today there is no international mechanism for resolving spectrum allocation disputes, and we find ourselves not only competing with commercial interests but with international entities for spectrum. A number of foreign nations are considering charging the Department for spectrum usage.[19]

Mr. Money's comments were not abstract speculation. For example, the Republic of Korea's Ministry of Information and Communications (MIC) refused to allocate frequencies required to deploy the Patriot missile system into the Korean peninsula. The Patriot operates in a band of the spectrum occupied by cellular phone customers throughout Korea. Currently, the Patriot operates in Korea on a very strict not-to-interfere basis. The Korean MIC may be willing to relinquish a portion of the spectrum to facilitate Patriot operations, but not until the

17. *Id*. § 922(1).

18. CBO Study, *supra* note 10.

19. Arthur L. Money, statement to the House Subcommittees for Military Procurement and Research and Development on Defense Information Superiority and Information Assurance (Feb. 23, 1999) *available at* <http://www.house.gov/hasc/testimony/106thcongress//00-02-23money.htm>.

United States has provided documentation to the MIC from which it can complete a full system analysis.[20] But for an existing agreement between NATO countries, similar conflicts may have seriously impaired the recent bombing campaign in Kosovo.

In May 1999, Senator John Warner introduced an amendment to the DOD Authorization Act prohibiting any communication system from interfering with the DOD's use of the frequency spectrum, and requiring any offender to pay the remediation costs incurred by the DOD because of such interference.[21]

Senator Warner's proposed legislation met with great opposition. Satellite and telecommunications industry trade groups, the FCC, and the Office of Management and Budget all opposed the spectrum management provisions of the DOD Authorization Act.[22] The FCC Chairman, William Kennard, wrote directly to Senator Warner to express the FCC's opposition to the amendment. Even the NTIA opposed the amendment.

While the opposition managed to defeat Senator Warner's amendment, the DOD did obtain relief from the DOD Authorization Act in three distinct areas: (1) national spectrum planning; (2) reclamation of reallocated frequencies; and (3) a military frequency replacement procedure.[23]

First, Congress required the NTIA and the FCC, in concert with the effected federal agencies, to review and assess the progress towards implementing a national policy for spectrum management, the reallocation of federal bandwidth, and the impact on federal agencies of such reallocation. During the course of this review and assessment, Congress required the NTIA and FCC to give particular attention to the impact on current and future critical military and intelligence capabilities, operational requirements and national defense modernization programs. The results of this review and assessment must be submitted to the President and several Congressional committees by 1 October 2000.

Second, Congress established a procedure for the DOD to at least maintain its current allocations of bandwidth. Specifically, the DOD can withhold surrendering bandwidth for which it is a primary user until (1) the NTIA and FCC make replacement bandwidth available, and (2) the Secretary of Commerce, Secretary of Defense and the Chairman of the Joint Chiefs of Staff jointly certify that the replacement bandwidth offers comparable technical characteristics, relative to military capabilities, to the bandwidth being surrendered.

Pursuant to the OBRA-93 and BBA-97,[24] the Commerce Department, through the NTIA, identified and recommended the reallocation of federal government frequencies. Apparently disagreeing with the reallocation assessment of the NTIA, Congress expressly reclaimed a total of 16 MHz of bandwidth for use by the DOD. Specifically, the DOD reclaimed 3 MHz between 138 and 144 MHz, 5 MHz between 1385 and 1390 MHz, and the reduction by 8 MHz of spectrum below 3 GHz that was to be recommended for reallocation away from federal users.

Conclusion

Now that the dust has settled, it appears the DOD has won a small number of spectrum recovery campaigns. First and foremost, the DOD reclaimed portions of the radio spectrum previously reallocated away by the NTIA, and postponed further encroachment of the spectrum unless it receives a comparable replacement. As the primary federal spectrum user, the military will also have a greater voice in developing a national spectrum policy. In developing this national policy, current and future military systems must be fully considered.

One shortcoming of the DOD Authorization Act is the lack of any remedial provisions should, for example, the Commerce Secretary disagree with the Secretary of Defense regarding comparable replacement bandwidth. Also, will the review and assessment by the NTIA and the FCC attempt to re-open the DOD's old wounds? Another void in the DOD Authorization Act is a provision regarding who will pay the cost of relocating existing military systems to other portions of the spectrum when a comparable replacement is made available.

A national spectrum management policy may require greater efficiencies by federal users of the spectrum, reallocation of spectrum back to federal use, or possibly even management of the spectrum by associations of users rather than government regulators. If the DOD's attack on Capitol Hill results in an effective, comprehensive and equitable national spectrum policy then it not only has won the battle, it has won the war. That would be in the "best interest of the nation."

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20. Interview with Gunnery Sergeant Carroll "Alex" Alexander, United States Marine Corps, former Frequency Action Officer, Joint Frequency Management Office Korea, J6 Operations Division, United States Forces Korea (November 1999).

21. S. 1059, 106th Cong., 1st Sess. §§ 1049, 1050 (1999).

22. *Clinton Administration Opposes Handing DoD Spectrum Priority*, SATELLITE NEWS, July 5, 1999; *DoD May Gain Edge in Spectrum Disputes Via Authorization Bill*, SATELLITE NEWS, May 31, 1999; *Rep. Dingell Gains OMB Pledge to Fight Spectrum Provisions*, SATELLITE NEWS, July 5, 1999.

23. DOD Authorization Act, Pub. L. No. 106-65, § 1062 (1999).

24. 47 U.S.C. § 923 (LEXIS 2000).

Environmental Risk Management: Protecting Migratory Birds on Federal Installations

Captain Justin S. Tade
White Sands Missile Range, New Mexico

As Bubba pilots his Ford F-150, with the fully stocked gun-rack and Audubon Society stickers on the rear window, down the road bordering Fort Swampy, he is horrified to see a hawk gracefully alight on a power pole then burst into flames like a roman candle. Disgusted by this innocent bird's sad demise, Bubba, being the enviro-friendly guy he is, decides to report this incident to his local chapter of the Audubon Society and the U.S. Fish and Wildlife Service (USFWS). Should Bubba's report alarm Fort Swampy? Given some recent decisions in federal cases, it should.

Federal agencies' obligations under the Migratory Bird Treaty Act (MBTA)[25] were recently thrown into greater confusion at the hands of the federal district court for the District of Columbia.[26] In *Humane Society v. Glickman*,[27] the court held that the MBTA applies to federal agencies. Therefore, federal agencies must obtain appropriate permits before conducting activities that result in the intentional taking of migratory bird species.[28] This decision creates such turmoil because it runs directly counter to the 1997 decisions of two federal circuit courts, which held that the MBTA does not apply to the United States.[29] "A decision has not yet been made on whether to appeal the district court's ruling, leaving an open question as to whether federal agencies will now have to apply for permits from the USFWS before engaging in any activities that may be construed as taking migratory birds."[30] Given the dynamic nature of this issue, federal agencies such as the USFWS have been counseled to adopt a cautious position on this issue.[31] Therefore, installations should practice "forward-thinking" risk management and seek appropriate permits for intentional and unintentional destruction of migratory birds.

At this point it is important to consider the reasoning behind the holdings in *Newton County Wildlife Ass'n v. United States Forest Service*[32] and *Sierra Club v. Martin*.[33] Both cases involved the U.S. Forest Service selling logging rights to cut timber on federal land. This harvesting of timber would have indirectly resulted in the death of migratory birds. Neither of these cases discussed the Supreme Court's discussion in *Robertson v. Seattle Audubon Society*.[34] In *Robertson*, "the Supreme Court employed language that quite clearly suggested that it understood federal agencies to be bound by MBTA § 2, 16 U.S.C. § 703."[35] The court in *Humane Society* did not understand why the Eighth and Eleventh Circuit Courts[36] did not follow the Supreme Court's guidance in their respective cases. The court agreed that the Eighth and Eleventh circuits were likely correct to reason that Congress did not envision that the MBTA would be construed "as an absolute criminal prohibition on conduct, such as timber harvesting, that indirectly results in the death of migratory birds."[37] However, the *Humane Society* court did not follow the other courts' reasoning that Congress intended to exempt all actions committed by

25. 16 U.S.C.S. §§ 703–712 (LEXIS 2000).

26. *See* Major James Robinette, *Migratory Bird Treaty Act May Now Apply to Federal Agencies*, ARMY LAW., Nov. 1999, at 40.

27. No. 98-1510, 1999 U.S. Dist LEXIS 19759 (D.D.C. July 6, 1999). This case involved a plan by the United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (APHIS-WS) to intentionally capture and kill Canadian geese in order to decrease conflicts between the geese and Virginia homeowners, businesses, and public institutions. The court rejected the argument that the MBTA does not apply to federal agencies, but, confusingly, the court order limited itself as to affected parties, affected species, and particular activities, such as, the APHIS-WS goose control program in Virginia.

28. *Id*. *See* 50 C.F.R. § 10.13 (1999) for a list of migratory bird species.

29. *See* Newton County Wildlife Ass'n. v. United States, 113 F.3d 110 (8th Cir. 1997) (concluding that the Forest Service is not a "person" for purposes of the MBTA); Sierra Club v. Martin, 110 F.3d 1551 (11th Cir. 1997).

30. *See* Robinette, *supra* note 26, at 41.

31. Memorandum from Office of the Solicitor, U.S. Department of the Interior, to Director, U.S. Fish and Wildlife Service, subject: Advice Regarding *Humane Society v. Glickman* (Aug. 1999) (unpublished memorandum on file with author). The Office of the Solicitor advised the USFWS to not take, hunt, capture, or kill any migratory bird in any location without a permit or regulatory authorization under the MBTA. Furthermore, the USFWS was directed to not assert in any communication or correspondence that federal agencies are not covered by the prohibitions of the MBTA.

32. *See Newton County Wildlife Ass'n*, 113 F.3d at 110; *Sierra Club*, 110 F.3d at 1551.

33. *Id.*

34. 503 U.S. 429 (1992).

35. *See* Humane Society v. Glickman, No. 98-1510, 1999 U.S. Dist. LEXIS 19759 (D.D.C. July 6, 1999).

36. States in the Eighth Circuit include Arkansas, Iowa, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. States in the Eleventh Circuit include Alabama, Florida, and Georgia.

all federal officials from the MBTA.[38] Given the position taken by the Eighth and Eleventh circuits, installations located within those jurisdictions may consider taking the liberal view that the MBTA does not apply to them.

Assuming the MBTA applies to federal agencies, it is important for Army installations to know about the recent decision in *United States v. Moon Lake Electric Ass'n*.[39] Moon Lake Electric Association (Moon Lake) is a rural electrical distribution cooperative based in Roosevelt, Utah. Moon Lake services electric customers in Utah and Colorado and has power lines, power poles, and other power distribution facilities running between the two states. On 9 June 1998, the Department of Justice filed an unprecedented information[40] charging Moon Lake with seven misdemeanor violations of the Bald and Golden Eagle Protections Act (BGEPA)[41] and six misdemeanor violations of the MBTA.[42] According to the United States, Moon Lake's violations resulted in the untimely electrocution of twelve golden eagles, four ferruginous hawks, and one great horned owl. The United States further proffered that these deaths were caused by Moon Lake's failure to install inexpensive equipment on power poles that would have otherwise protected the birds.

On 12 August 1999, the United States prevailed against Moon Lake. Moon Lake pled guilty to three violations of each act, agreed to pay $100,000 in penalties, and will serve three years probation. Moon Lake also agreed to retrofit its power poles.[43] The MBTA carries criminal penalties of up to six months confinement and a $15,000 fine for violation of a regulation made pursuant to the MBTA, or up to two years imprisonment and a maximum $250,000 fine if the violation is done with a pecuniary motive.[44] The maximum penalty for a first time conviction under the BGEPA is a fine of not more than $5000, or imprisonment of not more that one year or both.[45] However, in January 1999, Moon Lake filed a motion to dismiss in U.S. District Court for the District of Colorado.[46] Moon Lake basically argued that the electrocutions of birds, by their power distribution facilities, were not violations of the MBTA or the BGEPA because the electrocutions were unintentional and not caused by the sort of conduct normally exhibited by hunters and poachers.[47] First, the court addressed whether the MBTA and BGEPA proscribe only intentionally harmful conduct. The court then determined whether the acts proscribe only physical conduct normally associated with hunting or poaching.

On the first issue, citing *United States v. Corrow*,[48] the court found, "it is not necessary to prove that a defendant violated the Migratory Bird Treaty Act with specific intent or guilty knowledge."[49] In contrast, it is important to note that the BGEPA is not a strict liability crime and applies only to those who act "knowingly, or with wanton disregard for the consequences" of their acts.[50]

On the second issue, the court found against Moon Lake by holding that the plain language of the MBTA and BGEPA proscribes several types of physical conduct outside of hunting and

37. *See Humane Society*, 199 U.S. Dist. LEXIS 19759, at *34.

38. *Id.*

39. 45 F. Supp. 2d 1076 (D. Colo. 1999).

40. An information is a written accusation, made by a public prosecutor, that may be used in place of a grand jury indictment to bring a person to trial. FED. R. CRIM. P. 7.

41. 16 U.S.C.S. § 668 (LEXIS 2000).

42. *Id.* §§ 703, 707a.

43. *See* Ted Williams, *Zapped*, AUDUBON, Jan.-Feb. 2000, at 33. Though there is no estimate for the cost of the retrofit to Moon Lake, the U.S. Army retrofitted 320 poles at Rocky Mountain Arsenal at a cost of $94,000 in the mid-1990s.

44. *See* Robinette, *supra* note 26, n.10.

45. 16 U.S.C.S. § 668. In the case of a second or subsequent conviction for a violation the BGEPA, the fine is not more than $10,000 or imprisonment of not more than two years, or both. The commission of each taking or other act prohibited by the BGEPA with respect to a bald or golden eagle constitutes a separate violation.

46. *See* United States v. Moon Lake Elec. Ass'n, 45 F. Supp. 2d. 1076 (D. Colo. 1999).

47. *Id.* at 1072. *Moon Lake* cited five cases supporting its argument that the MBTA prohibited only physical conduct associated with hunting and poaching. The seminal case relied upon was *Seattle Audubon Society v. Evans*, 952 F.2d 297 (9th Cir. 1991).

48. 119 F.3d 796 (10th Cir. 1997). In *Corrow*, the Tenth Circuit joined the majority of circuit courts of appeal in holding that § 707(a) of the MBTA is a strict liability crime.

49. *Id.* at 805 (quoting United States v. Manning, 787 F.2d 431, 435 n.4 (8th Cir. 1986)).

50. 16 U.S.C.S. § 668(c).

poaching.[51] The MBTA prohibits pursuing, hunting, capturing, killing, shooting, wounding, trapping, collecting, possessing, offering for sale, selling, offering to barter, bartering, offering to purchase, purchasing, delivering for shipment, shipping, exporting, importing, delivering for transportation, transporting, carrying, and receiving migratory birds.[52] Obviously, most of these prohibited acts are not normally associated with hunting and poaching and show that Congress intended to prohibit conduct beyond that normally exhibited by hunters and poachers. The court exhaustively reviewed the congressional record pertaining to the passage of the MBTA to reach its conclusion. It is interesting to note that even in 1918, when the MBTA was being debated, at least one "astute" congressional representative saw the nexus between the Department of Defense (DOD) and the MBTA. While debating the MBTA, Representative Tillman noted, "God made woodpeckers, meadow larks, wild ducks, and bobolinks for boys to shoot . . . it makes better soldiers of them, if they learn to shoot."[53] Representative Tillman's argument failed to convince a majority of his colleagues.

Regardless of the location of your installation, from the deserts of the southwest to the hinterlands of Alaska, you probably have migratory birds or raptors using your land. If these birds prefer to use your installation's power poles for nesting or resting, your installation should be concerned. Retrofitting power lines and poles with bird friendly devices is strictly voluntary.[54] However, once a power pole on a federal installation outside of the Eighth and Eleventh Circuits kills a bird, the installation can be sued or otherwise subjected to criminal enforcement action pursuant the latest case law and the MBTA and BGEPA.

There are approximately 116,531,289 power distribution poles in the United States,[55] thousands of which are on DOD installations. Retrofitting every power line and pole on DOD property would cost millions of dollars. Though retrofitting every power pole on DOD property may be an impractical fix, the implementation of sound environmental risk management principles is not. Advice, guidance, and even design specifications for making power distribution systems safe for birds, especially raptors, can be found by contacting the USFWS or the utility industry's Avian Power Line Interaction Committee (APLIC).[56] Risk management steps to consider in order to protect migratory birds and raptors include the following eight steps.

First, identifying any power lines or poles on the installation that are known to kill migratory birds. Once these deadly power lines and poles have been identified, they should be retrofitted to ensure they are safe for use by migratory birds.

Second, meeting with installation environmental stewardship specialists and natural resource managers to ensure they are aware of these latest issues surrounding the MBTE and BGEPA. Installation environmental professionals should spearhead efforts to protect their installation from liability for the unlawful taking of migratory birds. These new cases should be incorporated into installation planning under the National Environmental Policy Act (NEPA),[57] the installation Integrated Natural Resources Management Plan (INRMP),[58] and the installation master plan.

Third, obtaining appropriate permits from the USFWS.[59] The USFWS special take permits are required if an installation proposes to control nuisance birds by "intentionally taking" them. Even the removal of a bird's nest from a building on the

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51. *Moon Lake Elec. Ass'n*, 45 F. Supp. 2d at 1080.

52. *See* 16 U.S.C.S. §§ 703–712.

53. *Moon Lake Elec. Ass'n*, 45 F. Supp. 2d at 1080 (citing 56 CONG. REC. 7447 (daily ed. June 6, 1918)).

54. *See Williams*, *supra* note 43, at 34.

55. *Id*.

56. AVIAN POWER LINE COMMITTEE, EDISON ELECTRIC INSTITUTE/RAPTOR RESEARCH FOUNDATION, SUGGESTED PRACTICES FOR RAPTOR PROTECTION ON POWER LINES: THE STATE OF THE ART IN 1996 (1996). The APLIC provides guidance standards for the utility industry pertaining to bird interaction with power lines and related facilities. The APLIC has produced two detailed reports on suggested practices utilities can use to protect raptors from electrocution on power lines and avoid bird collisions with power lines. To obtain these reports, send an electronic-mail request to enviro@sprnet.com.

57. 42 U.S.C.S. § 4321-4370D (LEXIS 2000).

58. *See* U.S. DEP'T OF ARMY, REG. 200-3, NATURAL RESOURCES-LAND, FOREST AND WILDLIFE MANAGEMENT, para. 9.1 (28 Feb. 1995). Integrated natural resources management plans must be maintained for properties under DOD control. These plans guide planners and implementers of mission activities as well as natural resources managers. A natural resources management plan is integrated when the following criteria are met: (1) All renewable natural resources and areas of critical or special concern are adequately addressed from both technical and policy standpoints; (2) The natural resources management methodologies will sustain the capabilities of the renewable resources to support military requirements; (3) The plan includes current inventories and conditions of natural resources; goals; management methods; schedules of activities and projects; priorities; responsibilities of installation planners and decision makers; monitoring systems; protection and enforcement systems; land use restrictions, limitations, and potentials or capabilities; and resource requirements including professional and technical manpower; (4) Each plan segment or component (that is, land, forest, fish and wildlife, and outdoor recreation) exhibits compatible methodologies and goals including compliance with the Endangered Species Act and applicable endangered species management plans; (5) The plan is compatible with the installation's master plan, pest management plan, and master training schedule.

installation may require a USFWS permit.[60] Installations should consider contacting the USFWS even for activities that "foreseeably will result in unintentional destruction"[61] of migratory birds. The consultations with USFWS as to migratory bird take permits should be reflected in the administrative record.[62]

Fourth, where the purpose of an installation action is to intentionally and directly take migratory birds, the installation must by law and Army guidance apply for and obtain a depredation permit or other regulatory authorization from the USFWS prior to taking action and record any birds purposefully and intentionally taken under the permit and provide an annual report to the USFWS.[63]

Fifth, when an installation engages in an otherwise lawful activity that involves the unintentional taking of migratory bird species, it should coordinate with and seek the views of the USFWS and state fish and game officials. Furthermore, the installation should and seek to minimize impacts of management activities on migratory birds in INRMP and NEPA documents.[64]

Sixth, ensuring contracts with private companies for the installation of power distribution facilities include design specifications that reduce the risk of killing birds that may use the lines or poles. The added cost of installing "bird safe" measures should be reflected in all contract bids.

Seventh, coordinating with the U.S. Army Corps of Engineers, installation public works departments, or private utility companies that may install power distribution facilities on your installation. Inform these entities of cases and decisions like *Moon Lake* and *Humane Society v. Glickman*. Environmental law specialists and installation environmental specialists should ensure that anyone installing power lines and poles on the installation implement a policy that will result in "bird safe" power distribution facilities.

Eighth, publishing commander's guidance addressing the installation's position on environmental stewardship and the need to implement policies and procedures for the protection of migratory birds.

The DOD annually spends millions of dollars protecting the environment. It is wiser to invest dwindling federal dollars in protection programs than in fines and costly litigation. Taking these forward-thinking environmental risk management steps is another important way for the Army to promote environmental stewardship while focusing on its mission. [65]

59. Application procedures and general rules for acquiring depredation permits for migratory birds can be found at 50 C.F.R. § 21.41 (1999). Application procedures and general rules for acquiring permits for the taking, possession, and transportation of bald and golden eagles within the United States can be found at 50 C.F.R. § 22.

60. *See* 50 C.F.R. § 21.27. Special purpose permits may be issued for special purpose activities related to migratory birds, their nests, or eggs.

61. *See* Robinette, *supra* note 26, at 40.

62. An administrative record is the paper trail that documents an agency's decision-making process, the basis for the decision, and the final decision. *See* Major Michelle Shields, *Compiling an Administrative Record*, ARMY LAW., Mar. 2000, at 35.

63. Draft Information Paper from United States Army Environmental Center, subject: Migratory Bird Treaty Act (MBTA) (Mar. 1999) (on file with author).

64. *Id.*

65. The primary focus of this guidance is on power lines, power poles, and other power distribution facilities on DOD installations. Installation environmental law specialists should be consulted regarding issues involving the unintentional taking of migratory birds by other mission-related activities such as military training and timber harvesting.